



Commentary

Maternal Going to Sleep Position and Late Stillbirth: Time to Act but With Care

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ARTICLE INFO

Article history:

Received 3 April 2019

Accepted 4 April 2019

Available online 10 April 2019

Stillbirth remains a common tragedy, occurring several million times throughout the world each year [1]. Although stillbirth rates have been meaningfully reduced in many countries, there continue to be large numbers of potentially preventable stillbirths. It is particularly difficult to prevent late term stillbirths (≥ 37 weeks gestation) since many are unexplained. In this issue of *EClinicalMedicine*, Cronin and colleagues show that about 6% of late term stillbirths may be due to going to sleep in the supine position [2]. They used an individual participant data meta-analysis of five case control studies including 851 cases and 2257 controls. The risk of stillbirth was increased in women going to sleep in the supine position compared to the left side (adjusted odds ratio 2.63 (95% CI 1.72, 4.04)). The risk was not increased with going to sleep on the right side and the relationship remained across conditions such as small for gestational age fetus, maternal obesity and smoking [2].

These data are exciting because they suggest that maternal going to sleep position is a modifiable risk factor for stillbirth. Some risk factors such as maternal age or race/ethnicity are not modifiable. Others are potentially modifiable but with great difficulty. Examples include obesity and smoking. In addition, the link between supine sleep and stillbirth is biologically plausible. In the supine position, the uterus may compress venous blood flow, leading to decreased uterine perfusion, and eventually, stillbirth [3,4]. If all women avoided supine going to sleep, the authors conclude that late stillbirth would be reduced by 6% [2].

Although it is attractive to move forward with strong public health campaigns based on these data, it is also important to be careful. First, there are several observations that warrant caution. One is the fact that supine position upon waking up has not been related to stillbirth [5]. It is true that going to sleep position reflects a longer sleep period relative to position on waking up [6]. Nonetheless, this observation is inconsistent with the working hypothesis and raises

doubt. Second, data regarding sleep position and stillbirth are derived from case control studies, which are prone to considerable recall bias. This has been addressed in some studies by assessing sleep position in live births prior to delivery at gestational ages that are comparable to the stillbirths. However, the possibility of recall bias among women with stillbirth remains high. Many women have been told to sleep on their left side and women with stillbirth often wonder if their behavior contributed to or caused the stillbirth. Third, many women who experience venous compression upon lying in the supine position experience extreme discomfort owing to hypotension, light-headedness, and nausea. They immediately move to a different position, sometimes when sleeping. Of course, some women remain asymptomatic despite some level of decreased venous return. Nonetheless, it seems as though many of the most severely affected women move away from the supine position.

Perhaps more importantly, we must be mindful of not causing harm with public health campaigns to avoid supine sleeping. Virtually, all women with stillbirth suffer some sense of self-blame. They attempt to link a behavior to the stillbirth and attribute the loss of their child to something they did or did not do. Second, women cannot always control their sleep position due to movement while asleep. If they wake up on their back, they experience considerable anxiety that they are harming their baby. Others report that they are only comfortable in supine sleeping positions and cannot sleep in other positions. They may seek to severely restrain their ability to move from a left sided sleep position, harming their sleep quality and duration. Sometimes anxiety regarding sleep position is profound and leads to increased antenatal testing and rarely, iatrogenic preterm birth. Our group has noted increases in the frequency of patient anxiety regarding sleep position when studies about sleep position and stillbirth receive lay press.

Of course, it is possible to encourage women to change behavior while trying to minimize anxiety, harm and guilt. This is routinely done with things such as smoking cessation and weight loss. The coauthors of this study have advocated sensitivity to these issues and have been careful to advise women that it is “going to sleep position” rather than “waking up position” that is associated with stillbirth. It is harmful to be too cautious prior to adopting public health measures that are supported by available data. Infant sleep position and SIDS serves as a good example [7]. On the other hand, obstetric practice is rife with recommendations and interventions that are well-intended but harmful and lacking proven benefit. Electronic fetal monitoring and increased utilization of cesarean are interventions intended to reduce stillbirth that (arguably) are over utilized and have considerable downsides that may outweigh the good [8,9].

DOI of original article: <https://doi.org/10.1016/j.eclinm.2019.03.014>

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We are indebted to Lesley McCowan and her coworkers for introducing and studying this novel, simple and promising approach to reducing preventable stillbirths. Given current data, it is reasonable to consider advising women to avoid going to sleep on their backs in late pregnancy. Owing to the relative infrequency of stillbirth, higher quality data are unlikely to be available in the near future. However, it is critical that we do not consider our work to be finished. We are obligated to study the effects and consequences, both good and bad, of such policies and interventions, and continue to perform research regarding sleep and pregnancy.

Authors Contribution

Robert Silver wrote the comment.

Conflict of Interests

Robert Silver has nothing to disclose.

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